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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEE, GILBERT Y

ART UNIT PAPER NUMBER

3673

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/518,483

Applicant(s)

BEICHL ET AL.

Examiner

Gilbert Y. Lee

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/20/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-5, drawn to a sealing arrangement.

Group II, claim(s) 6, drawn to a method of sealing a gap.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the method of sealing a gap requires the brush seal to be "between a minimum diameter and a maximum diameter of a conical portion of a second one of the components" while the sealing arrangement only requires a brush seal and does not mention dimensions.

During a telephone conversation with Mark Neblett on 9/26/06 a provisional election was made without traverse to prosecute the invention of I, claims 1-5.

Affirmation of this election must be made by applicant in replying to this Office action.

Claim 6 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the mechanical and hydraulic adjuster in claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 1 is objected to because of the following informalities: in line 4, "a first component" should be changed to --the first component--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the means" in line 2. There is insufficient antecedent basis for this limitation in the claim. For the purposes of this examination, the examiner is interpreting the claim to be claiming the sealing arrangement of claim 2.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1,2,4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Popp (US Patent No. 4,595,207).

Regarding claim 1, the Popp reference discloses a sealing arrangement (Fig. 1) for sealing a gap (e.g. gap between elements 1 and 4) between two components (1 and 4) which can move rotationally with respect to one another about a common axis of rotation (Fig. 1), having a brush seal (3) which is arranged fixedly in a first component (Fig. 1) and interacts with a sealing surface (e.g. 5) of the second component, wherein the sealing surface is conical in form (Fig. 1). Note that the components of the Popp reference are **capable of** being axially displaceable and adjustable with respect to the other component.

Regarding claim 2, the Popp reference discloses the sealing arrangement as claimed in claim 1. Note that the components of the Popp reference are **capable of** being axially displaceable and adjustable with respect to the other component.

Regarding claims 4 and 5, the Popp reference, discloses the structural limitations and it is **capable of** being displaced by means such as a threaded connection between two components or a mechanical adjuster or a hydraulic adjuster. Evidence is provided by Colley.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Spain et al. (US Patent No. 5,029,875).

Regarding claim 1, the Spain et al. discloses a sealing arrangement (Fig. 3) for sealing a gap (e.g. gap between elements 10 and 22) between two components (10,22) which can move rotationally with respect to one another about a common axis of rotation, having a brush seal (34) which is arranged fixedly in the first component (Fig.

Art Unit: 3673

3) and interacts with a sealing surface (e.g. 12) of the second component (Fig. 3), wherein the sealing surface is conical in form (Fig. 3). Note that the components of the Spain et al. reference are **capable of** being axially displaceable and adjustable with respect to the other component.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spain et al. in view of Colley (US Patent No. 4,330,234).

Regarding claim 3, the Spain et al. discloses the invention substantially as claimed in claim 1, including the fluid seal structure being used in a gas turbine engine (Col. 1, Lines 14-17).

However, the Spain et al. reference fails to explicitly disclose a sliding seat, an adjustment nut fitted into the casing and a displacement screw thread.

The Colley reference, a sealing arrangement for a gas turbine, discloses the placement of the brush seal as well as a sliding seat (e.g. 29), an adjustment nut (e.g. 31) and a displacement screw thread (e.g. screw threads of screw located near elements 33-35).

Art Unit: 3673

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide appropriate adjustment means to the Spain et al. reference in view of the teachings of the Colley reference in order to allow for the inaccuracies in geometry when the eccentrics cause the ring to translate circumferentially (Col. 1, Lines 45-49).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 3673

For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GL

October 2, 2006

A handwritten signature in black ink, appearing to read "Patricia Engle", with a stylized flourish at the end.

Patricia Engle
Supervisory Examiner
Tech. Center 3600